

Remarks/Arguments

Claim Amendments

Claim 1 has been amended to recite a lens secured to the heat sink assembly. A lens 18 is shown in Figure 7a. Paragraph [0033] states that the lens is fixedly secured to surface 81 of heat sink 28. Claim 1 also has been amended to recite the lens and heat sink assembly fully enclosing the illumination source. This is best shown in the figures. As noted *supra*, Figure 7a shows the lens 18 enclosing the circular opening at the top of the heat sink. The illumination source extends into the chamber of the heat sink through opening 84. Therefore, bulb 50 is fully enclosed by the chamber of the heat sink and the lens. No new matter has been added.

Rejection of Claims 1-3 under 35 U.S.C. §103(a)

The Examiner rejected Claims 1-3 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,295,052 (Chin). Applicants respectfully traverse the rejection.

Chin does not teach or suggest fully enclosing an illumination source

Claim 1 recites: “a heat sink assembly; a lens secured to said heat sink assembly, where said heat sink assembly and said lens fully enclose said illumination source;” In contrast, Chin teaches an illumination source that is cradled or supported by separate, unconnected heat sink blocks: “Shown through the aperture 28 is a lamp assembly 80 comprising a 300W Xenon lamp 34 supported by heat sinks having the form of mounting plates with fins providing heat sinking to an airflow passing therethrough as described below. The heat sinks, as further shown in FIG. 4 showing a representative heat sink 38, have a slot 42 cut from a front edge 44 through an aperture 46 for the lamp 34 to a position proximate to a back edge 48.” (col. 2, lines 54-62). The heat sinks do not fully enclose the lamp assembly or the lamp. This is also shown in Figures 1 and 5 of Chin. Figure 1 is a front view of Chin’s apparatus. Portions of lamp 34 are clearly shown as being “in the open” with respect to the heat sinks. Specifically, the leader line for reference designator 34 points directly to one such portion. Other such portions of lamp 34 are visible/exposed between the fins of heat sinks 36 and 38. Figure 5 is a perspective view and

shows that lamp 34 is clearly exposed, that is, is unenclosed by heat sink 36. Chin does not suggest or motivate fully enclosing lamp 34 either.

There is suggestion or motivation, in Chin or in the knowledge generally available to one of ordinary skill in the art, to modify the reference

Chin does not contain any suggestion or motivation to modify his apparatus to fully enclose the bulb. Chin states that his arrangement operates satisfactorily. Modifying Chin to fully enclose the bulb would require a significant modification of his design and would greatly increase the cost and complexity of his apparatus.

For all the reasons noted above, Chin fails to establish a *prima facie* case of obviousness with respect to Claim 1. Therefore, Claim 1 is patentable over Chin. Claims 2 and 3, dependent from Claim 1, enjoy the same distinction from Chin. Applicants courteously request that the rejection be removed.

Rejection of Claims 4-12, 14-24, 26-43, and 46-50 under 35 U.S.C. §103(a)

The Examiner rejected Claims 4-12, 14-24, 26-43, and 46-50 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,295,052 (Chin) in view of U.S. Patent No. 5,076,660 (Messinger). Applicants respectfully traverse the rejection.

Claim 1

Applicants have shown that Claim 1 is patentable over Chin. Messinger does not cure the defects of Chin with respect to Claim 1. Specifically, Messinger fails to teach a heat sink assembly and lens fully enclosing an illumination source. Therefore, Claim 1 is patentable over Chin in view of Messinger. Claims 4-12 and 14, dependent from Claim 1, enjoy the same distinction from the cited prior art. Note also that the arguments *infra* regarding Claim 15 are applicable to Claim 4 and Claims 5-12 and 14, dependent from Claim 4. Applicants courteously request that the rejection be removed.

Claim 15

Amended Claim 15 recites: “a fixed baffle assembly located proximate said air inlet and operatively arranged to divert air entering said microscope via said inlet and to occlude the

emanation of light from said microscope through said air inlet.”

Messinger is not analogous to the present invention

Messinger is teaching a light source for fiberoptic illumination. Fiberoptic illumination is not analogous to the microscope recited in Claim 15.

Messinger does not teach a fixed baffle proximate an air inlet and blocking light from the inlet

The Examiner has cited elements 15 and 19 and the partitions, all shown in Fig. 1 of Messinger as being analogous to the baffle recited in Claim 15. Messinger does not use the term “partition.” Applicants assume that the Examiner is referring to the structures shown to the right of lamp 1 in Fig. 1. Assuming *arguendo* that Messinger is analogous to the microscope recited in Claim 15, Fig. 1 shows air flow through cooling passages 11 in light guide 3. That is, the passages form the air inlet. The partitions are not located between the lamp and the air inlet. Baffles 19 are partially located in the path of light from the lamp to the air inlet (ignoring shutter 15), but a significant gap is left between the baffles. That is, baffles 19 cannot and do not “occlude the emanation of light from said microscope through said air inlet.”

In some cases, shutter 15 does block light from entering the air inlets. For example, when shutter 15 is moved to the closed mode. However, shutter 15 is not a fixed baffle; it is a shutter, which is a completely different element in terms of structure and function than a baffle. Assuming *arguendo* that shutter 15 is analogous to a baffle, shutter 15 by its very nature must be moveable and cannot be fixed. The very function of Messinger relies on the movement of shutter 15. For example, shutter 15 moves between an open mode in which light from the lamp can enter light guide and the air inlet, and a closed mode in which light from the lamp is blocked from the light guide and the air inlet.

Chin in view of Messinger fails to teach, suggest, or motivate a fixed baffle as recited in Claim 15. Therefore, Claim 15 is patentable over Chin in view of Messinger. Claims 16-24, and 26-29, dependent from Claim 15, enjoy the same distinction from the cited references. Applicants courteously request that the rejection be removed.

Claim 30

Amended Claim 30 recites: “a fixed baffle located proximate an air inlet of said microscope and operatively arranged to deflect air that enters said microscope via said inlet, wherein said microscope further comprises an illumination source and said baffle occludes the emanation of light from said illumination source through said inlet;” This is substantially the same element as noted above for Claim 15. Applicants have shown that Claim 15 is patentable over Chin in view of Messinger. Therefore, Claim 30 also is patentable over Chin in view of Messinger. Claims 31-34, 36-43 and 46-50, dependent from Claim 30, enjoy the same distinction from the cited references. Applicants courteously request that the rejection be removed.

Rejection of Claims 13, 25, 44, and 45 under 35 U.S.C. §103(a)

The Examiner rejected Claims 13, 25, 44, and 45 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,295,052 (Chin) in view of U.S. Patent No. 5,076,660 (Messinger) as applied to Claims 5, 17, and 36, and further in view of U.S. Patent No. 6,698,200 (Rauen). Applicants respectfully traverse the rejection.

Applicants have shown that Claims 1, 15, and 30 are patentable over Chin in view of Messinger. Rauen teaches a thermodynamic engine and fails to cure the defects of Chin and Messinger with respect to Claims 1, 15, and 30. Therefore, Claim 13, Claim 25, and Claims 44 and 45, dependent from Claims 1, 15, and 30, respectively, enjoy the same distinction with respect to the cited references.

Applicants courteously request that the rejection be removed.

Conclusion

Applicant respectfully submits that all pending claims are now in condition for allowance, which action is courteously requested.

Respectfully submitted,



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